

**WHAT IS CLAIMED IS:**

1. A machine tool maintenance system for evaluating and controlling the static and/or dynamic characteristics of a machine tool having a main spindle unit and a feeder in trial operation of the machine tool, the machine tool maintenance system comprising:

    a sensor for detecting the static and/or dynamic characteristics of the machine tool;

    a reference value storage section for storing predetermined reference values indicative of standard conditions of the machine tool;

    a judgement section for evaluating the static and/or dynamic characteristics of the machine tool on the basis of a detection signal detected by the sensor and the reference values stored in the reference value storage section for judgement on the acceptability of the characteristics; and

    an output device for outputting a judgement result obtained by the judgement section.

2. A machine tool maintenance system according to Claim 1, wherein the sensor includes at least one of a rotation sensor for detecting the number of rotations of the main spindle, temperature sensor for detecting the temperature of the machine tool, acceleration sensor for detecting the acceleration acting on the machine tool, displacement sensor for detecting displacement of a predetermined portion of the machine tool, and a noise meter for detecting noise caused by the machine tool.

2. A machine tool maintenance system according to Claim 1, further comprising a judgement result storage section for storing the judgement result obtained by the judgement section.

3. A machine tool maintenance system according to Claim 2, further comprising an estimate section for estimating future static and/or dynamic characteristics of the machine tool based on the judgement result stored in the judgement result storage section.

5. A machine tool maintenance system according to any one of Claims 1 through 4, further comprising a drive signal generator which generates a drive control signal to operate the main spindle unit and/or feeder for a trial and transmits the generated drive control signal to the machine tool.